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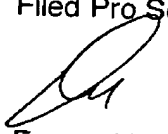
Total pages, including cover sheet: 10

Comments

Please find attached an Amendment to the Claims for the pending application:

No. 10/661,466, Applicants, Vitaliano, et al; Russell S. Negin,  
Examiner, Art Unit 1631

Filed Pro Se



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Commissioner of Patents  
Alexandria, VA 22313-1450

Re: Amendment of Claims

This is an Amendment to the Claims for the pending application:

No. 10/660,466  
Applicants, Franco Vitaliano & Gordana Vitaliano  
Russell S. Negin, Examiner,  
Art Unit 1631

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PATENT APPLICATION No. 10/661,466  
Applicants: Franco Vitaliano and Gordana Vitaliano  
Amendments to the Claims  
April 4, 2006

Claims

- 1 1. (Original): A quantum information processing platform comprising,  
2 a plurality of quantum information processing elements each having,  
3 a cage defining a cavity formed from a plurality of self-assembling protein molecules,  
4 and one or more cargo elements located within the cavity, wherein  
5 at least one of the cargo elements comprises a qubit programmable into a plurality of  
6 logical states.
- 1 2. (Original): A quantum information processing platform according to claim 1, wherein the  
2 quantum information processing elements comprise,  
3 receptors for capturing and positioning the one or more cargo elements within the cavity.
- 1 3. (Original): A quantum information processing platform according to claim 2, wherein  
2 the quantum information processing elements comprise,  
3 a vesicle located within the cage and enclosing the one or more cargo elements, wherein  
4 the receptors extend through the vesicle to capture and position the cargo element within the  
5 vesicle.
- 1 4. (Original): A quantum information processing platform according to claim 3, wherein the  
2 quantum information processing elements comprise,  
3 adaptors disposed between the receptors and the cage and binding to the receptors.
- 1 5. (Original): A quantum information processing platform according to claim 1, wherein the  
2 quantum information processing elements comprise,  
3 a vesicle located within the cage and enclosing one or more cargo elements.
- 1 6. (Original): A quantum information processing platform according to claim 1, wherein the  
2 quantum information processing elements comprise,  
3 molecular tethers for capturing and positioning one or more cargo elements within the  
4 cavity.
- 1 7. (Original): A quantum information processing platform according to claim 1, wherein the  
2 quantum information processing elements comprise,

3 direct cage bonding for capturing and positioning one or more cargo elements within the  
4 cavity.

1 8. (New:) A quantum information processing platform according to claim 1, wherein the  
2 quantum information processing elements comprise,

3 a functionalized cage for attaching one or more elements externally to the cage.

1 9. (Original): A quantum information processing platform according to claim 1, wherein the  
2 quantum information processing element comprise, receptors, molecular tethers and direct cage  
3 bonding for capturing and positioning one or more cargo elements within the cavity.

1 10. (Original): A quantum information processing platform according to claim 1, wherein the  
2 one or more cargo elements of a subset of the quantum information processing elements further  
3 comprises a non-permeable cavity.

1 11. (Original): A quantum information processing platform according to claim 3, wherein the  
2 one or more vesicles of a subset of the quantum information processing elements further  
3 comprises a non-permeable cavity.

1 12. (Original): A quantum information processing platform according to claim 1, wherein  
2 the cage is electrically neutral and inhibits charge transfer between the cage and its cargo  
3 elements.

1 13. (Original): A quantum information processing platform according to claim 1, wherein  
2 the cage reduces the tendency of a plurality of logical states in a coherent state to collapse into a  
3 decoherent state.

1 14. (Original): A quantum information processing platform according to claim 1, wherein the  
2 cage inhibits non-quantum information processing cargo elements from interfering with qubit  
3 cargo element operation in other cages.

1 15. (Original): A quantum information processing platform according to claim 3, wherein the  
2 vesicle is electrically neutral and inhibits charge transfer between the vesicle and its enclosed  
3 cargo elements.

1 16. (Original): A quantum information processing platform according to claim 3, wherein the  
2 vesicle is insulative and reduces the tendency of a plurality of logical states in a coherent state to  
3 collapse into a decoherent state.

- 1 17. (Original): A quantum information processing platform according to claim 4, wherein the  
2 receptors and adaptors are electrically neutral and inhibit charge transfer between the vesicle and  
3 cage and their cargo elements.
- 1 18. (Original): A quantum information processing platform according to claim 1, wherein the  
2 cage reduces contaminant background radiation to cargo carried within the cage.
- 1 19. (Original): A quantum information processing platform according to claim 3, wherein the  
2 vesicle reduces contaminant background radiation to cargo carried within the vesicle.
- 1 20. (Original): A quantum information processing platform according to claim 1, comprising  
2 a self-assembling framework of cages to structurally support one or more of the self-assembling  
3 quantum information processing elements.
- 1 21. (Original): A quantum information processing platform according to claim 1, comprising  
2 a self-assembling electrically neutral substrate of cages to structurally support one or more of the  
3 self-assembling quantum information processing elements.
- 1 22. (Original): A quantum information processing platform according to claim 1, comprising  
2 a self-assembling framework of cages to structurally order one or more self-aligning ones of the  
3 quantum information processing elements.
- 1 23. (Original): A quantum information processing platform according to claim 1, wherein  
2 the one or more cargo elements of a subset of the quantum information processing elements is a  
3 single cargo element comprising a qubit programmable into a plurality of logical states.
- 1 24. (Original): A quantum information processing platform according to claim 1, wherein the  
2 one or more cargo elements of a subset of the quantum information processing elements are a  
3 plurality of cargo elements.
- 1 25. (Original): A quantum information processing platform according to claim 23, wherein  
2 the plurality of cargo elements are qubits programmable into a plurality of logical states.
- 1 26. (Original): A quantum information processing platform according to claim 23, wherein at  
2 least some of the plurality of cargo elements are non-quantum information processing cargo  
3 elements.
- 1 27. (Currently amended): A quantum information processing platform according to claim 1,  
2 wherein the one or more cargo elements of a subset of the quantum information processing  
3 elements respond to stimuli internal and or external to the cage.

- 1 28. (Currently amended): A quantum information processing platform according to claim 3,  
2 wherein the one or more vesicles of a subset of the quantum information processing elements  
3 respond to stimuli internal and or external to the vesicle.
- 1 29. (Currently amended): A quantum information processing platform according to claim 1,  
2 wherein the one or more quantum information processing elements and their qubit and non-QIP  
3 cargo are used in vitro and or in vivo.
- 1 30. (Currently amended): A quantum information processing platform according to claim 23,  
2 wherein a subset of the non-quantum information processing cargo elements include one or more  
3 therapeutic single task and or multitask in vivo and or in vitro agents.
- 1 31. (Cancelled):
- 1 32. (Cancelled):
- 1 33. (Cancelled):
- 1 34. (Original): A quantum information processing platform according to claim 23, wherein a  
2 subset of the qubit and non-quantum information processing cargo elements include one or more  
3 quantum dots.
- 1 35. (Original): A quantum information processing platform according to claim 23, wherein a  
2 subset of the qubit and non-quantum information processing cargo elements include one or more  
3 photonic dots.
- 1 36. (Original): A quantum information processing platform according to claim 23, wherein a  
2 subset of the cargo elements include one or more liquids without dopants or with one or more  
3 dopants of any type.
- 1 37. (Original): A quantum information processing platform according to claim 23, wherein a  
2 subset of the qubit and non-quantum information processing cargo elements include a gas or  
3 vapor without dopants or with one or more dopants of any type.
- 1 38. (Original): A quantum information processing platform according to claim 1, wherein the  
2 at least one qubit of a subset of the plurality of quantum information processing elements are  
3 programmed by one or more pulses of electromagnetic radiation.
- 1 39. (Cancelled):
- 1 40. (Cancelled):
- 1 41. (Cancelled):